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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,324	04/02/2001	Takahiro Hoshida	5000-4867	9409

7590 04/02/2003

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New York, NY 10154

EXAMINER

LOPEZ, FRANK D

ART UNIT	PAPER NUMBER
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3745

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DATE MAILED: 04/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/824,324

Applicant(s)

HOSHIDA ET AL.

Examiner

F. Daniel Lopez

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4 and ~~6-23~~ is/are pending in the application. TDL
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 and 21 is/are allowed.
- 6) ☒ Claim(s) 4, 6, ~~8-19~~, 22 and 23 is/are rejected. TDL
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Response to Amendment***

Applicant's arguments filed January 31, 2003, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claims 4, 6, 8-19, 22 and 23 have been considered but are deemed to be moot in view of the new grounds of rejection.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC 102***

Claims 4, 6, 8, 10-18, 22 and 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Weidely.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 9 and 19 are rejected under 35 U.S.C. § 103 as being unpatentable over Weidely in view of Gruetjen. Weidely discloses a hollow piston comprising an end wall having a flat outer end face exposed to pressure of a cylinder bore and an inner end face; wherein a recess is formed in the outer end face; wherein the inner end face includes a protrusion, including ribs, and a convex surface located radially inside and

joined to an annular concave surface; wherein the convex surface is a smooth curved surface and has a uniform cross section over its entire circumference about an axis of the piston; and wherein the contour of the inner end face first approaches and then departs from the outer end face, from a radially outer portion to a radially inner portion; wherein the end wall is part of a head piece coupled to a body piece, which includes the remainder of the piston; but does not disclose that the head and body pieces are separable, and when separated, the inner end face is exposed.

Gruetjen teaches, for a piston comprising a head piece (1) coupled to a body piece (6), wherein the head piece includes an end wall having an outer end face exposed to pressure of a cylinder bore and an inner end face, and the body piece includes the remainder of the piston; that the head piece is formed separate from the body piece, and when separated, the inner end face is exposed, for the purpose of decreasing fabrication costs (column 1 line 20-21). One of ordinary skill in the piston art would recognize that the decreased cost is due to being able to form the complex shape on the inner end face, without interference by the body piece.

Since the inner end face of Weidely is relatively complex, and Gruetjen teaches forming a head piece before attaching it to a body piece, for the purpose of decreasing costs, due to being able to form the complex inner end face, without interference by the body piece, the purpose disclosed by Gruetjen would have been recognized in the pertinent art of Weidely. It would have been obvious at the time the invention was made to one having ordinary skill in the art to form the head piece of Weidely separate from the body piece, and when separated, the inner end face is exposed, as taught by Gruetjen, for the purpose of decreasing fabrication costs.

### ***Conclusion***

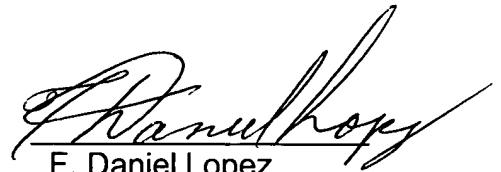
Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 20 and 21 are allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9302. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.

A handwritten signature in black ink, appearing to read 'F. Daniel Lopez', with a horizontal line drawn underneath it.

F. Daniel Lopez  
Primary Examiner  
Art Unit 3745  
March 27, 2003